



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,537	06/29/1999	MASUHIRO NATSUHARA	50395-029	6658

20277 7590 12/05/2003
MCDERMOTT WILL & EMERY
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER

ELEY, TIMOTHY V

ART UNIT PAPER NUMBER

3724

DATE MAILED: 12/05/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/342,537

Applicant(s)

NATSUHARA ET AL.

Examiner

Timothy V Eley

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 3724

DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on February 26, 2003, PROSECUTION IS HEREBY REOPENED. See the new prior art rejections as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Drawings

2. Figures 3 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Art Unit: 3724

Specification

3. The disclosure is objected to because "(a)lso, . . . plate"(page 10, last 2 lines to page 11, lines 1 and 2) is vague, indefinite, and awkwardly and confusingly worded.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3,5 and 6 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicant's Admitted Prior Art(AAPA).

a. The AAPA discloses a method of producing ceramics base plates, which comprises forming a continuous flaw on at least one surface of a ceramics sintered base plate(1) from (inherently) end to end using a flawing tool(3) and dividing the ceramics sintered base plate along the flaw by applying an external force. See applicant's specification on page 1, lines 10-end to page 3, lines 1-8. Specifically, applicant discloses that it is well know to "half cut" a ceramics sintered base plate and then divide the base plate by applying an external force(see applicant's

Art Unit: 3724

figures 3 and 4). It should be noted that "half cutting" produces a cut in the ceramics sintered base plate; the cut being a flaw in the plate.

b. Regarding claims 2 and 3, the AAPA discloses that the flawing tool(3) is made of diamond. See applicant's specification on page 2, line 2.

c. Regarding claims 5 and 6, the AAPA discloses that the ceramics sintered base plate is an aluminum nitride sintered base plate having a Vickers hardness of 1,500 Hv or lower. See applicant's specification on page 3, lines 11 and 12, and Table 1 on page 12.

6. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Cotton'944.

a. Cotton discloses a method of producing ceramics base plates, which comprises forming a continuous flaw(36) on at least one surface of a ceramics sintered base plate(34) from end to end using a flawing tool(see column 1, lines 30-36) and dividing the ceramics sintered base plate along the flaw by applying an external force. See column 1, lines 7-12; column 1, lines 30-47; column 4, lines 28-36; and figures 1-3.

b. Regarding claim 7, Cotton does not disclose using a cooling medium at forming the flaw and at dividing the ceramics sintered base plate.

Art Unit: 3724

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton in view of AAPA.

a. Cotton is explained above.

b. Cotton does not specifically disclose that the ceramics sintered base plate is an aluminum nitride sintered base plate having a Vickers hardness of 1,500 Hv or lower.

c. The AAPA is explained above and teaches flawing and dividing an aluminum nitride sintered base plate having a Vickers hardness of 1,500 Hv or lower.

d. In addition, Cotton teaches that the ceramic sintered base plate can be made from very hard material comprising aluminum (see column 4, lines 28-36). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the method of Cotton could have been used to flaw and divide a ceramic sintered base plate having a Vickers hardness of 1,500 Hv or lower in view of the teachings of the AAPA, and since Cotton teaches that the ceramic sintered base plate can comprise aluminum.

Art Unit: 3724

9. Claims 1, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii'690 in view of AAPA.

a. Ishii discloses a method of producing ceramics base plates, which comprises forming a continuous flaw(13A) on at least one surface of a ceramics base plate(13) from end to end using a flawing tool(8) and dividing the ceramics sintered base plate along the flaw by applying an external force. See column 1, lines 6 and 7, lines 18-26, lines 39-41; column 2, lines 28-35, lines 41-51; column 3, lines 10 and 11.

b. Ishii does not specifically disclose that the base plate is a ceramic sintered base plate comprising an aluminum nitride having a Vickers hardness of 1,500 Hv or lower.

c. The AAPA is explained above and teaches flawing and dividing an aluminum nitride sintered base plate having a Vickers hardness of 1,500 Hv or lower.

d. In addition, Ishii teaches that the ceramic base plate can be relatively thick(see column 1, lines 39-41) and the pressure applied by the breaking means is about 10-20 times as large as the pressure in the prior art(see column 3, lines 10 and 11) and therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the method of Ishii could have been used to flaw and divide a ceramic sintered base plate having a Vickers hardness of 1,500 Hv or lower in view of the teachings of the AAPA, and since Ishii teaches that the method can be used to break relatively thick

Art Unit: 3724

plates by applying more pressure at 10-20 times the pressure applied by the prior art and therefore inherently being able to break extra hard materials such as ceramic sintered base plates.

e. Regarding claim 4, Ishii does not specifically disclose that the depth of the flaw formed on the surface of the base plate is from 1/100 to 1/10. However, Ishii clearly shows in figure 2 that the flaw(13A) is a small percentage of the total thickness of the plate((13) and discloses that the method can be used to break relatively thick plates(column 1, lines 39-41); and the thicker the plate, the smaller the depth of the flaw, since the flawing tool is only capable of providing a certain maximum depth. Therefore, the exact depth of the flaw would have been obvious to one having ordinary skill in the art at the time the invention was made, since an artisan would select the depth of the flaw that would appropriately allow division of the base plate.

f. Regarding claim 7, Ishii does not disclose using a cooling medium at forming the flaw and at dividing the ceramics base plate and therefore one ordinary skilled in the art can reasonably assess that a cooling medium is not used.

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii in view of AAPA as applied to claim 1 above, and further in view of Yasuga.

a. Ishii as modified is explained above.

Art Unit: 3724

b. Ishii does not disclose that a flawing tool is used made of diamond.

c. Yasuga discloses that it is well known to used a flawing tool made of diamond or a super-hard knife for forming a flaw in tiles. See column 1, lines 11-14.

d. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the method of Ishii by using a flawing tool made of diamond for cutting the "ceramic" tile as taught by Yasuga in order to provide for easier cutting of a hard material and to prevent frequent replacement of the flawing tool.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Wilson et al discloses a method of breaking a ceramic tile after providing a flaw on a surface thereof.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 703-308-1824. The examiner can normally be reached on M-F.

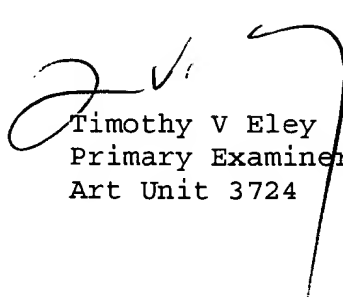
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 703-308-1082. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 09/342,537

Page 9

Art Unit: 3724

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Timothy V Eley
Primary Examiner
Art Unit 3724

tve